

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: HALO COMMERCIAL

Report Number: P776808

Luminaire Tested: HCDJBS4050CSD-HCD8TRH-HCD8TRLWW-5000lm-4000K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776808  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2312156B022)  
Test Lab:  
Issue Date: 2/7/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBS4050CSD-HCD8TRH-HCD8TRLWW-5000lm-4000K  
Description: 8 INCH ROUND MEDIUM LENSED WALLWASH KIT  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

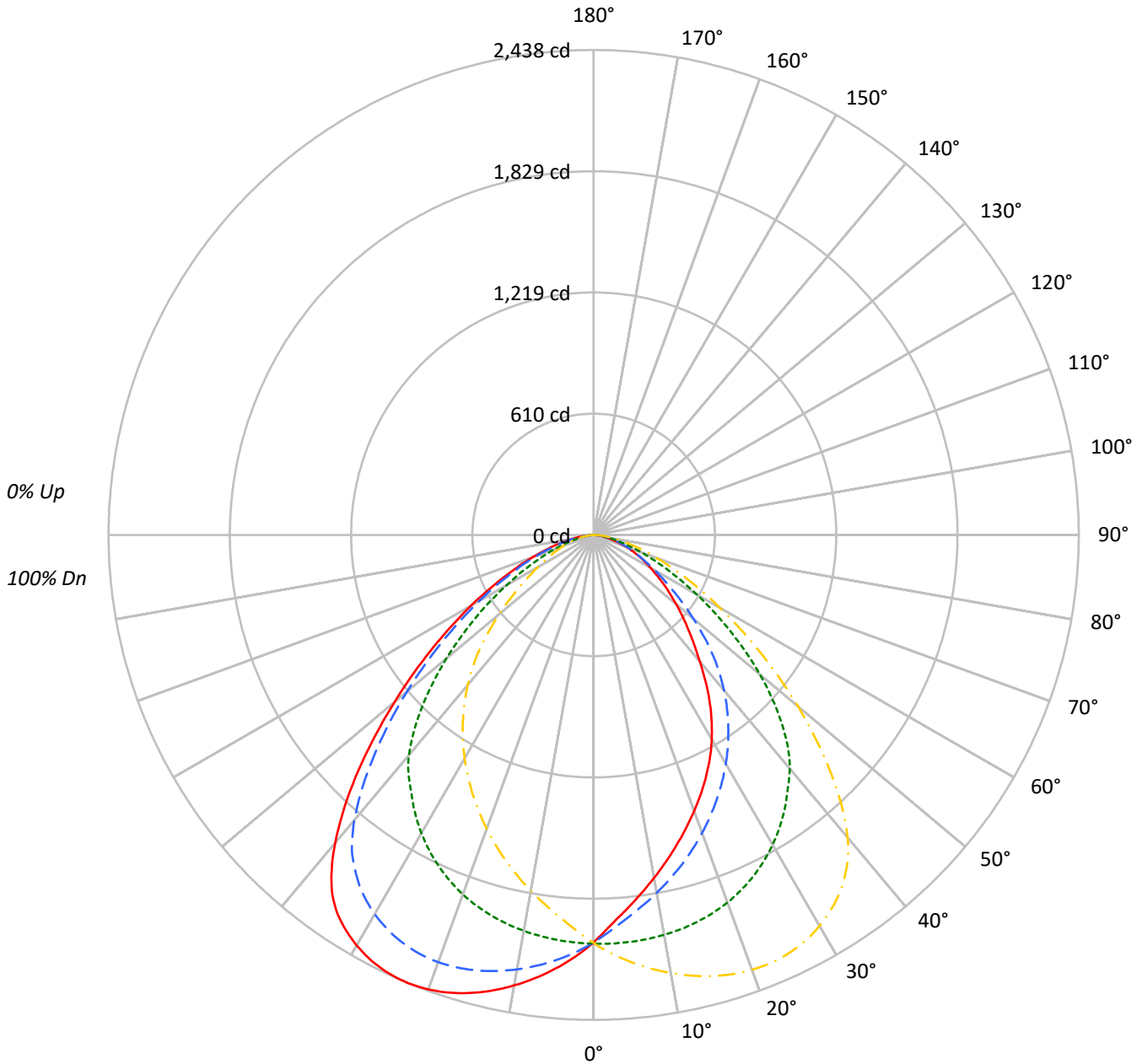
Lumens per Lamp: N/A  
Luminaire Lumens: 4794.2 lumens  
Efficiency: N/A  
Efficacy: 99.9 lumens/watt  
Spacing Criteria (0/90/45): 1.28 / 1.27 / 1.32  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

Input Watts (W): 48  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					20					20					20										
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100								
1	110	106	103	99	108	104	101	98	100	97	95	96	94	92	93	91	89	87								
2	102	94	89	83	99	93	87	83	89	85	81	86	82	79	83	80	77	75								
3	94	84	77	71	91	83	76	71	80	74	69	77	72	68	75	71	67	65								
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59	57								
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50								
6	74	62	53	47	72	61	53	47	59	52	47	57	51	46	56	50	46	44								
7	69	56	48	42	67	55	48	42	54	47	42	53	46	42	51	46	41	39								
8	64	51	43	38	63	51	43	38	50	43	38	48	42	37	47	41	37	35								
9	60	47	40	34	59	47	39	34	46	39	34	45	38	34	44	38	34	32								
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29								

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	62599	62599	62599	62599
5°	57926	62955	67046	62661
10°	54265	63283	71294	62660
15°	50983	63641	75349	62642
20°	47990	63881	78992	62465
25°	45069	63846	81949	61963
30°	41835	63410	83973	61031
35°	37807	62436	84604	59439
40°	33107	61141	80554	57518
45°	29066	57662	72061	52559
50°	25705	51795	62045	45863
55°	22691	44344	52312	38409
60°	20101	36465	43420	30970
65°	17937	29243	35499	24266
70°	15291	22682	28913	18451
75°	12244	17210	23309	13542
80°	9512	12712	18338	9178
85°	6375	9038	11735	5184

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 157.5°  
 Vertical Angle: 45°  
 Luminance: 73300 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	194.4	4.1
10°-20°	563.4	11.8
20°-30°	862.4	18.0
30°-40°	1021.1	21.3
40°-50°	937.7	19.6
50°-60°	655.7	13.7
60°-70°	367.4	7.7
70°-80°	158.7	3.3
80°-90°	33.5	0.7
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1620.2	33.8
0°-40°	2641.2	55.1
0°-60°	4234.7	88.3
0°-90°	4794.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4794.2	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	2050	2050	2050	2050	2050	
5°	1890	2054	2188	2045	1890	176
15°	1613	2014	2384	1982	1613	453
25°	1338	1895	2433	1839	1338	614
35°	1014	1675	2270	1595	1014	631
45°	673	1336	1669	1217	673	522
55°	426	833	983	722	426	383
65°	248	405	491	336	248	246
75°	104	146	198	115	104	113
85°	18	26	34	15	18	23
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2050.4	2050.4	2050.4	2050.4	2050.4	2050.4	2050.4	2050.4	2050.4	2050.4	2050.4
0.5°	2030.8	2032.2	2037.5	2044.6	2055.6	2059.9	2064.2	2064.2	2063.3	2061.4	2059.9
1°	2014.5	2017.4	2026.0	2038.4	2055.6	2066.2	2075.3	2078.6	2079.1	2076.2	2070.5
1.5°	1997.7	2001.6	2014.5	2032.2	2056.1	2072.9	2086.3	2093.0	2093.9	2089.6	2080.5
2°	1980.5	1986.3	2002.5	2026.0	2056.1	2078.6	2096.8	2106.4	2108.3	2103.0	2091.0
2.5°	1964.2	1970.9	1990.6	2019.3	2056.1	2084.3	2107.3	2119.3	2122.1	2115.9	2100.6
3°	1948.5	1956.1	1979.1	2013.1	2056.1	2090.6	2116.9	2132.2	2136.0	2128.4	2110.2
3.5°	1933.1	1942.2	1967.1	2006.4	2055.6	2095.8	2126.9	2144.6	2149.4	2140.3	2118.8
4°	1918.8	1928.4	1956.1	1999.2	2055.2	2101.1	2136.5	2157.1	2162.3	2152.3	2127.9
4.5°	1904.0	1915.0	1944.6	1992.5	2054.7	2106.4	2146.1	2169.5	2175.3	2163.8	2136.5
5°	1890.1	1901.6	1933.6	1985.3	2054.2	2111.6	2155.2	2181.0	2187.7	2175.3	2145.1
5.5°	1875.7	1888.2	1923.1	1978.1	2053.7	2115.9	2164.3	2193.0	2200.1	2186.7	2153.3
6°	1861.8	1875.2	1912.1	1971.4	2052.8	2120.7	2172.9	2204.0	2212.1	2197.8	2161.4
6.5°	1848.0	1862.3	1901.6	1964.2	2051.8	2125.5	2182.0	2215.5	2224.1	2207.8	2169.0
7°	1833.6	1849.4	1891.0	1957.1	2050.9	2129.8	2190.1	2226.0	2235.6	2218.3	2176.7
7.5°	1819.7	1836.5	1880.5	1949.9	2049.4	2134.1	2198.7	2236.5	2246.6	2228.9	2183.9
8°	1805.9	1823.1	1870.0	1942.7	2048.0	2137.9	2206.4	2247.0	2258.0	2238.9	2191.1
8.5°	1792.0	1810.2	1859.5	1935.5	2046.5	2141.8	2214.5	2257.6	2269.0	2248.5	2198.2
9°	1778.1	1797.2	1848.4	1927.9	2045.1	2145.6	2221.7	2267.1	2279.6	2257.6	2204.9
9.5°	1764.2	1784.3	1837.9	1920.7	2043.2	2148.9	2229.3	2276.7	2289.6	2267.1	2211.1
10°	1750.4	1770.9	1826.9	1913.5	2041.3	2152.8	2236.0	2286.8	2299.7	2275.7	2217.4
10.5°	1737.0	1758.0	1815.9	1906.3	2039.4	2155.6	2243.2	2295.4	2309.7	2284.8	2223.6
11°	1722.6	1745.1	1804.9	1898.7	2037.0	2158.5	2250.4	2304.5	2319.3	2293.0	2229.3
11.5°	1708.7	1732.2	1793.9	1891.0	2034.6	2161.4	2256.6	2313.1	2328.4	2301.1	2235.1
12°	1694.8	1718.8	1782.4	1883.4	2032.2	2164.3	2262.8	2321.7	2337.0	2309.2	2240.3
12.5°	1681.4	1705.9	1771.4	1875.2	2029.8	2166.6	2269.0	2330.3	2345.6	2316.4	2245.1
13°	1667.6	1692.9	1760.4	1867.1	2026.9	2169.0	2274.8	2338.0	2354.2	2324.1	2249.9
13.5°	1654.2	1680.0	1748.9	1859.5	2023.6	2171.0	2280.5	2345.1	2361.9	2330.8	2254.7
14°	1640.3	1666.6	1737.4	1850.8	2020.2	2172.4	2285.8	2352.8	2369.5	2337.5	2259.0
14.5°	1626.4	1653.7	1726.0	1842.7	2016.9	2174.3	2291.1	2359.5	2376.7	2343.7	2262.8
15°	1613.0	1640.3	1714.5	1833.6	2013.5	2175.7	2295.8	2366.2	2383.9	2349.9	2266.7
15.5°	1599.1	1626.9	1703.0	1825.5	2009.7	2176.7	2300.2	2372.4	2390.6	2355.2	2270.0
16°	1585.7	1614.0	1691.0	1816.4	2005.9	2177.7	2304.5	2378.6	2396.8	2360.4	2272.9
16.5°	1572.4	1601.1	1679.1	1807.8	2001.6	2178.1	2308.3	2383.9	2402.5	2365.7	2275.7
17°	1558.5	1587.7	1667.6	1798.2	1997.3	2178.6	2312.1	2389.2	2407.8	2370.0	2278.1
17.5°	1545.1	1574.7	1655.1	1788.6	1992.5	2178.6	2315.5	2393.9	2412.6	2374.3	2280.1
18°	1531.2	1561.3	1643.2	1779.1	1987.7	2178.6	2318.3	2398.2	2417.4	2378.1	2282.0
18.5°	1517.8	1548.4	1630.7	1769.5	1982.4	2178.1	2320.7	2402.5	2421.2	2381.0	2283.4
19°	1504.4	1535.0	1618.8	1759.4	1977.2	2177.7	2323.1	2406.4	2425.0	2384.4	2284.4
19.5°	1490.5	1522.1	1606.3	1749.9	1971.9	2176.7	2325.0	2409.2	2428.4	2386.8	2284.8
20°	1477.1	1508.2	1593.9	1739.3	1966.2	2175.3	2326.5	2412.1	2431.3	2388.7	2285.3
20.5°	1463.3	1494.8	1581.4	1729.3	1960.4	2173.3	2327.9	2414.5	2433.7	2390.1	2284.8
21°	1449.9	1481.4	1568.5	1718.8	1953.7	2171.4	2328.4	2416.4	2435.6	2391.5	2284.4

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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	<i>1408.2</i>	<i>1441.2</i>	<i>1530.7</i>	<i>1686.2</i>	<i>1934.1</i>	<i>2164.3</i>	<i>2328.9</i>	<i>2419.3</i>	<i>2438.4</i>	<i>2392.0</i>	<i>2280.5</i>
23°	1394.3	1427.8	1517.3	1674.8	1926.9	2160.9	2327.9	2419.3	<i>2438.0</i>	2391.1	2278.1
23.5°	1380.5	1414.4	1504.9	1663.7	1919.3	2157.6	2326.5	2418.8	<i>2437.5</i>	2390.1	2275.7
24°	1366.6	1400.6	1491.5	1652.3	1911.1	2153.7	2325.0	2417.9	<i>2436.5</i>	2388.2	2272.4
24.5°	1352.2	1386.2	1478.6	1640.3	1903.5	2149.4	2323.1	2416.4	<i>2434.6</i>	2385.8	2269.0
25°	1337.9	1372.8	1465.2	1628.8	1895.3	2144.6	2320.2	2414.5	<i>2432.7</i>	2383.4	2265.2
25.5°	1323.5	1358.5	1452.2	1616.9	1887.2	2139.9	2317.4	2412.1	<i>2430.3</i>	2380.1	2260.9
26°	1309.2	1344.6	1438.9	1604.9	1878.1	2134.6	2314.0	2409.2	<i>2427.0</i>	2376.2	2255.6
26.5°	1294.8	1330.2	1425.5	1592.4	1869.0	2128.4	2310.2	2405.9	<i>2423.1</i>	2371.9	2250.4
27°	1279.5	1316.4	1411.6	1580.0	1859.9	2122.6	2305.9	2402.1	<i>2419.3</i>	2367.6	2244.6
27.5°	1264.2	1301.5	1398.2	1567.6	1850.4	2115.9	2301.1	2397.8	<i>2414.5</i>	2362.4	2238.4
28°	1249.4	1287.2	1384.3	1554.6	1840.3	2109.2	2295.8	2392.5	<i>2409.2</i>	2356.1	2231.7
28.5°	1234.1	1272.3	1370.4	1541.7	1830.3	2102.1	2290.1	2387.2	<i>2403.5</i>	2350.4	2225.0
29°	1218.3	1257.5	1356.5	1528.8	1820.2	2094.4	2283.9	2381.0	<i>2396.8</i>	2343.2	2217.4
29.5°	1202.5	1242.2	1342.7	1515.9	1809.2	2086.3	2277.2	2374.8	<i>2389.6</i>	2336.0	2209.2
30°	1186.7	1226.9	1328.3	1503.0	1798.7	2077.6	2270.0	2367.6	<i>2382.0</i>	2327.9	2200.6
30.5°	1170.4	1211.1	1314.0	1489.1	1787.7	2069.0	2262.3	2359.5	<i>2373.8</i>	2319.8	2191.5
31°	1153.7	1195.8	1299.6	1475.7	1776.2	2059.9	2254.2	2351.3	<i>2365.2</i>	2310.7	2182.0
31.5°	1136.9	1179.5	1284.8	1462.3	1764.2	2049.9	2245.6	2342.7	<i>2356.1</i>	2301.1	2171.9
32°	1119.7	1163.7	1270.4	1447.9	1752.7	2040.3	2236.5	2333.2	<i>2346.1</i>	2290.6	2161.9
32.5°	1102.5	1147.4	1255.6	1434.5	1740.8	2029.8	2226.9	2323.6	<i>2336.0</i>	2280.1	2150.4
33°	1085.7	1130.7	1240.8	1420.2	1728.3	2019.3	2216.9	2313.1	<i>2324.6</i>	2269.0	2138.4
33.5°	1068.0	1113.9	1225.9	1406.3	1715.4	2007.8	2205.9	2301.6	<i>2312.6</i>	2256.1	2126.0
34°	1050.8	1097.2	1210.6	1391.5	1702.5	1995.8	2194.4	2289.6	<i>2300.2</i>	2243.2	2112.1
34.5°	1032.1	1080.0	1195.3	1377.1	1689.1	1983.9	2182.9	2277.2	<i>2286.3</i>	2227.9	2097.3
35°	1014.4	1062.3	1180.0	1362.3	1675.2	1971.4	2170.0	2262.8	<i>2270.0</i>	2212.1	2081.5
35.5°	995.8	1045.0	1164.2	1347.5	1661.4	1957.5	2156.1	2247.5	<i>2253.3</i>	2193.9	2064.7
36°	978.1	1027.3	1148.4	1332.6	1647.0	1943.2	2140.8	2230.3	<i>2234.1</i>	2174.8	2049.4
36.5°	958.9	1009.6	1133.1	1317.3	1632.2	1928.8	2124.5	2211.1	<i>2213.5</i>	2155.2	2033.6
37°	940.7	991.5	1116.8	1302.5	1617.8	1913.5	2107.8	2191.5	<i>2188.7</i>	2134.1	2016.4
37.5°	921.6	973.3	1100.6	1286.7	1603.0	1899.6	2092.0	2170.0	<i>2165.7</i>	2109.7	1996.3
38°	903.4	954.6	1084.3	1272.3	1589.6	1885.8	2074.3	2146.1	<i>2138.4</i>	2083.9	1973.8
38.5°	883.8	936.4	1068.0	1257.0	1575.7	1872.8	2054.7	2120.7	<i>2111.6</i>	2057.1	1949.4
39°	866.1	917.8	1051.7	1242.2	1561.8	1857.5	2032.7	2094.9	<i>2082.4</i>	2028.8	1924.5
39.5°	847.9	899.1	1035.0	1227.4	1548.4	1840.8	2010.2	2067.1	<i>2052.8</i>	1999.7	1897.7
40°	830.7	880.4	1018.2	1212.5	1534.1	1822.1	1985.3	2037.5	<i>2021.2</i>	1969.0	1870.0
40.5°	812.5	861.8	1001.0	1197.2	1518.3	1800.6	1959.0	2007.8	<i>1988.6</i>	1937.4	1840.8
41°	796.2	843.6	983.8	1181.9	1501.1	1779.1	1931.7	1975.7	<i>1955.6</i>	1904.9	1811.6
41.5°	779.5	825.4	967.0	1166.1	1482.9	1756.1	1903.5	1943.7	<i>1921.2</i>	1871.9	1781.0
42°	764.2	807.2	949.8	1149.8	1463.7	1731.7	1874.3	1910.2	<i>1886.7</i>	1838.4	1749.9
42.5°	748.4	790.0	932.6	1133.1	1444.1	1707.8	1844.1	1875.7	<i>1851.8</i>	1803.5	1718.8
43°	732.6	773.3	914.9	1115.4	1423.1	1682.4	1812.6	1841.3	<i>1815.9</i>	1769.5	1687.2
43.5°	717.3	756.5	897.2	1097.2	1402.0	1656.1	1780.5	1805.9	<i>1779.5</i>	1733.1	1654.2



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	673.2	709.1	842.2	1040.7	1335.5	1573.3	1682.4	1697.7	1669.0	1626.4	1555.1
45.5°	659.9	693.8	824.0	1022.1	1312.0	1545.1	1648.0	1661.8	1632.6	1590.5	1521.6
46°	645.5	678.5	804.8	1002.0	1289.1	1515.4	1614.5	1625.0	1595.3	1554.6	1488.1
46.5°	631.6	663.7	785.7	981.4	1265.6	1485.7	1580.5	1588.6	1558.5	1518.3	1454.6
47°	618.2	649.3	766.6	961.3	1241.2	1455.6	1545.6	1551.3	1521.2	1482.4	1421.1
47.5°	604.8	634.5	746.9	940.3	1216.3	1425.5	1510.6	1514.9	1485.3	1447.0	1387.2
48°	591.9	620.6	727.3	919.7	1191.5	1394.8	1476.7	1479.5	1448.9	1412.1	1354.2
48.5°	579.0	606.7	708.7	899.1	1166.6	1364.2	1441.7	1443.2	1413.5	1376.6	1321.1
49°	566.5	592.9	689.5	877.6	1141.7	1333.6	1407.3	1407.7	1376.2	1342.2	1288.6
49.5°	553.6	579.5	671.3	856.5	1115.9	1302.5	1373.3	1371.4	1341.2	1306.8	1256.1
50°	541.2	566.1	652.7	835.5	1090.5	1271.9	1339.3	1336.0	1306.3	1272.8	1223.0
50.5°	528.7	553.1	634.5	813.9	1064.2	1241.2	1304.4	1301.0	1271.9	1238.8	1191.0
51°	516.8	539.7	617.3	792.4	1038.3	1209.6	1270.4	1266.1	1237.4	1205.8	1158.9
51.5°	505.3	527.3	600.0	770.4	1013.0	1180.0	1237.9	1232.6	1203.4	1172.8	1128.3
52°	493.3	514.4	582.8	749.3	986.7	1149.4	1204.9	1198.6	1170.9	1140.3	1096.7
52.5°	481.8	501.9	566.5	727.8	960.8	1118.3	1171.4	1164.7	1136.9	1108.2	1065.6
53°	470.4	489.5	549.8	706.3	935.0	1088.1	1138.8	1132.1	1105.8	1077.1	1035.5
53.5°	459.4	477.5	533.5	685.2	909.2	1058.4	1106.8	1100.1	1072.8	1045.5	1005.8
54°	447.9	465.6	517.3	664.2	883.3	1028.3	1075.7	1068.5	1042.7	1014.9	976.1
54.5°	437.3	454.1	501.9	643.1	858.0	999.1	1044.1	1036.9	1010.6	984.8	947.4
55°	426.3	442.6	486.6	622.5	833.1	970.4	1013.0	1006.3	982.8	956.5	919.2
55.5°	415.8	431.1	471.8	602.0	808.2	940.7	983.8	976.1	951.7	926.9	891.4
56°	405.8	420.1	457.0	581.4	783.3	912.5	953.2	946.5	924.0	898.1	863.7
56.5°	395.2	409.1	443.1	561.8	759.4	885.7	924.0	917.3	893.8	870.9	836.9
57°	385.2	397.6	428.7	542.6	734.5	857.5	895.3	889.1	868.0	843.6	810.1
57.5°	375.6	387.6	415.3	523.0	711.5	830.2	866.6	860.8	839.3	816.8	784.3
58°	365.6	377.1	402.4	504.3	687.6	803.4	839.3	833.5	813.9	790.5	759.4
58.5°	356.5	367.0	389.5	486.2	664.6	777.6	812.5	807.2	786.7	765.6	734.0
59°	347.4	357.0	377.1	468.0	641.7	751.7	785.7	780.9	762.3	740.7	710.1
59.5°	338.3	347.4	365.1	450.3	619.2	726.8	758.9	755.1	736.4	715.8	685.7
60°	329.2	337.8	353.1	433.0	597.2	702.0	733.1	730.2	711.1	692.4	662.7
60.5°	320.6	328.3	341.6	416.8	575.6	677.6	708.7	705.8	687.6	669.4	639.8
61°	312.0	319.2	330.2	400.0	555.1	653.6	684.7	681.9	662.2	646.5	617.3
61.5°	303.4	310.5	320.1	384.2	534.0	630.7	660.8	658.4	639.8	624.0	595.7
62°	295.2	301.9	309.6	369.4	513.9	608.2	637.4	635.9	617.3	602.0	574.7
62.5°	287.1	293.3	299.5	354.6	494.8	586.2	614.4	613.0	593.8	580.4	554.1
63°	279.4	284.7	290.0	340.2	475.6	563.7	592.4	590.9	573.2	559.4	533.5
63.5°	271.8	276.6	280.4	325.9	456.0	542.1	570.4	569.4	551.2	538.8	514.4
64°	264.1	268.9	271.3	312.5	439.3	521.6	549.8	548.8	530.2	518.7	494.8
64.5°	256.5	260.8	262.7	299.5	422.0	501.5	529.2	528.3	511.0	499.6	476.1
65°	248.3	253.1	254.6	287.1	404.8	482.3	509.1	508.6	491.4	480.9	458.4
65.5°	240.7	245.5	245.9	275.1	387.6	463.2	489.5	489.5	471.8	462.2	440.7
66°	233.0	237.8	237.8	263.2	370.4	444.0	470.8	470.8	453.6	444.0	423.0





TEST NUMBER: P776808

CATALOG NUMBER: HCDJBL54050CSD-HCD8TRH-HCD8TRLWW-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	209.1	215.3	215.3	230.6	323.0	392.4	417.7	418.2	402.9	393.8	374.7
68°	201.9	208.1	208.1	220.1	308.2	375.6	401.5	401.9	386.1	377.5	358.4
68.5°	194.3	201.0	201.0	210.5	294.3	358.4	384.7	385.2	369.9	361.3	343.1
69°	186.6	193.8	193.8	200.5	279.9	342.6	368.4	368.9	353.1	346.4	328.3
69.5°	179.4	186.1	187.1	191.9	267.0	326.8	351.7	352.7	338.3	331.6	313.9
70°	171.3	179.0	180.4	183.3	254.1	311.5	336.4	337.8	323.9	317.2	299.5
70.5°	164.6	171.3	174.2	175.1	241.6	297.1	321.1	323.0	309.6	303.4	286.1
71°	157.9	164.6	168.0	167.5	229.2	283.8	307.2	309.1	295.7	289.5	273.2
71.5°	150.7	158.4	161.7	160.3	217.7	269.9	293.3	295.2	281.8	276.1	260.3
72°	144.0	151.7	155.5	152.6	206.2	256.5	279.4	281.4	268.9	263.2	247.9
72.5°	137.3	145.5	149.8	145.5	195.2	243.6	266.5	268.4	256.0	250.7	235.4
73°	130.6	138.8	143.6	137.8	184.7	231.1	253.1	256.0	243.6	238.3	223.9
73.5°	123.5	132.1	137.3	131.6	174.2	219.2	241.6	243.6	231.6	226.8	212.5
74°	116.8	125.8	131.6	125.4	164.6	207.7	229.2	232.1	220.1	215.3	201.4
74.5°	110.5	119.6	125.8	119.1	155.0	196.7	217.2	220.1	208.6	204.8	190.9
75°	103.8	112.9	120.1	113.4	145.9	185.7	205.8	209.1	197.6	193.8	180.4
75.5°	97.6	107.2	114.4	108.1	136.9	175.1	195.2	198.1	187.1	183.3	170.3
76°	91.4	101.0	109.1	102.9	128.7	165.1	184.2	187.6	176.6	172.7	160.3
76.5°	85.7	94.7	103.4	97.6	120.6	155.0	174.2	177.5	167.0	163.2	151.2
77°	79.9	89.0	98.1	92.8	112.9	145.9	164.1	167.5	156.9	153.6	142.1
77.5°	75.1	83.3	92.8	88.5	105.3	136.9	154.6	157.9	147.4	144.5	133.0
78°	70.8	78.0	87.6	83.7	98.1	127.8	145.0	148.8	138.3	135.4	124.4
78.5°	66.5	73.2	82.3	79.4	90.9	119.6	136.4	139.7	129.7	126.8	116.3
79°	62.2	68.4	77.5	74.6	84.7	111.5	127.3	131.1	120.6	118.2	108.6
79.5°	58.4	64.1	72.7	70.3	78.0	103.4	119.1	122.5	112.4	110.5	100.5
80°	54.1	60.3	67.9	66.0	72.3	96.2	111.0	113.9	104.3	102.4	92.8
80.5°	50.7	56.0	63.2	62.2	66.0	89.0	102.9	106.2	96.2	94.7	86.1
81°	46.9	52.2	58.9	57.9	61.2	81.8	95.7	98.6	88.5	87.1	79.0
81.5°	43.1	47.9	55.0	53.6	55.5	75.1	88.0	90.9	80.9	79.9	72.3
82°	39.2	44.0	50.7	49.8	50.7	68.9	81.3	83.7	73.7	73.2	65.6
82.5°	35.9	40.2	46.9	45.9	45.9	62.7	74.2	76.6	66.5	66.5	59.3
83°	32.1	36.4	43.1	42.1	41.6	56.9	67.9	69.9	59.8	59.8	53.6
83.5°	28.2	32.5	39.2	38.8	37.8	51.7	61.2	63.2	52.6	53.6	48.3
84°	24.9	29.2	35.4	34.9	34.0	46.9	55.5	56.9	46.4	47.9	43.1
84.5°	21.5	25.4	31.6	31.6	29.7	41.6	49.3	50.7	39.7	42.1	37.8
85°	18.2	22.0	27.8	27.8	25.8	36.8	44.5	45.0	33.5	36.4	32.5
85.5°	15.3	18.2	24.4	24.4	22.5	32.1	39.2	39.7	27.3	30.6	27.3
86°	12.4	15.3	20.6	21.1	19.1	27.3	34.0	34.5	20.6	24.9	22.0
86.5°	9.6	12.9	17.7	17.7	16.3	23.4	28.7	28.7	15.3	20.6	17.7
87°	7.2	10.0	14.4	14.8	13.4	19.1	23.4	23.4	12.4	16.3	13.4
87.5°	4.8	7.2	11.5	12.0	10.5	15.3	19.1	18.7	9.6	12.4	9.1
88°	2.9	4.8	8.1	8.6	8.1	12.0	14.4	14.4	6.7	8.1	5.3
88.5°	1.4	2.9	5.3	5.7	5.7	8.6	10.5	9.6	3.8	3.8	1.4



TEST NUMBER: P776808

CATALOG NUMBER: HCDJBL54050CSD-HCD8TRH-HCD8TRLWW-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	0.0	0.0	0.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776808

CATALOG NUMBER: HCDJBL54050CSD-HCD8TRH-HCD8TRLWW-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2050.4	2050.4	2050.4	2050.4	2050.4	2050.4
0.5°	2056.1	2054.7	2047.0	2040.3	2034.1	2030.8
1°	2061.4	2054.2	2040.3	2028.4	2018.3	2014.5
1.5°	2066.6	2053.2	2033.1	2015.9	2002.5	1997.7
2°	2071.9	2052.3	2026.0	2004.0	1986.7	1980.5
2.5°	2077.2	2051.3	2018.8	1991.0	1971.4	1964.2
3°	2082.0	2049.9	2011.6	1978.6	1956.6	1948.5
3.5°	2086.3	2048.9	2004.0	1966.2	1942.2	1933.1
4°	2091.0	2047.5	1996.3	1954.2	1927.4	1918.8
4.5°	2095.4	2046.1	1988.6	1942.2	1913.5	1904.0
5°	2099.2	2044.6	1980.5	1930.7	1900.1	1890.1
5.5°	2103.0	2042.7	1972.9	1918.8	1886.7	1875.7
6°	2106.8	2040.8	1964.7	1907.8	1873.3	1861.8
6.5°	2110.2	2038.9	1957.1	1896.3	1859.9	1848.0
7°	2113.5	2037.0	1948.9	1885.3	1846.5	1833.6
7.5°	2116.9	2034.6	1940.8	1873.8	1833.1	1819.7
8°	2119.8	2032.2	1933.1	1862.8	1819.7	1805.9
8.5°	2122.6	2029.8	1924.5	1851.3	1806.3	1792.0
9°	2125.5	2026.9	1916.4	1839.8	1792.5	1778.1
9.5°	2127.9	2024.1	1908.3	1828.3	1779.5	1764.2
10°	2130.3	2021.2	1900.1	1817.3	1766.1	1750.4
10.5°	2132.2	2017.8	1891.5	1805.4	1752.7	1737.0
11°	2134.1	2014.5	1883.4	1793.9	1739.3	1722.6
11.5°	2135.5	2011.1	1874.8	1781.9	1726.0	1708.7
12°	2137.0	2007.8	1866.2	1770.5	1712.6	1694.8
12.5°	2138.4	2004.0	1857.1	1758.5	1699.2	1681.4
13°	2139.4	1999.7	1848.4	1746.5	1686.2	1667.6
13.5°	2140.3	1995.8	1839.4	1734.6	1672.4	1654.2
14°	2140.8	1991.5	1830.3	1722.6	1659.0	1640.3
14.5°	2140.8	1986.7	1821.2	1710.2	1645.6	1626.4
15°	2140.8	1981.9	1812.1	1698.2	1632.2	1613.0
15.5°	2140.8	1977.2	1802.0	1685.8	1617.8	1599.1
16°	2140.3	1971.9	1792.5	1673.3	1604.9	1585.7
16.5°	2139.9	1966.6	1782.9	1660.9	1591.5	1572.4
17°	2138.9	1960.9	1772.8	1648.9	1578.1	1558.5
17.5°	2137.5	1955.2	1762.3	1636.0	1564.2	1545.1
18°	2136.0	1949.4	1752.3	1623.6	1550.8	1531.2
18.5°	2134.1	1942.7	1741.7	1610.2	1536.9	1517.8
19°	2131.7	1936.5	1731.2	1597.7	1523.5	1504.4
19.5°	2129.3	1929.8	1720.2	1584.8	1510.1	1490.5
20°	2126.5	1922.6	1709.7	1572.4	1496.7	1477.1
20.5°	2123.6	1915.9	1698.2	1559.0	1482.9	1463.3
21°	2120.2	1908.3	1687.2	1545.6	1469.5	1449.9



TEST NUMBER: P776808

CATALOG NUMBER: HCDJBL54050CSD-HCD8TRH-HCD8TRLWW-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2108.3	1884.3	1652.3	1505.8	1427.8	1408.2
23°	2103.0	1876.2	1640.3	1492.9	1414.0	1394.3
23.5°	2098.2	1867.1	1628.3	1479.0	1400.1	1380.5
24°	2092.5	1858.5	1616.4	1465.6	1386.2	1366.6
24.5°	2086.7	1848.9	1603.9	1451.8	1371.9	1352.2
25°	2080.5	1839.4	1591.5	1438.4	1358.0	1337.9
25.5°	2074.3	1829.8	1578.6	1424.5	1344.1	1323.5
26°	2067.1	1820.2	1566.1	1410.6	1329.8	1309.2
26.5°	2059.9	1810.2	1553.2	1396.7	1314.9	1294.8
27°	2052.3	1799.2	1540.3	1382.9	1300.6	1279.5
27.5°	2044.2	1788.6	1526.9	1368.5	1285.7	1264.2
28°	2035.5	1777.6	1513.5	1354.2	1270.4	1249.4
28.5°	2026.9	1766.6	1500.1	1339.8	1256.1	1234.1
29°	2017.8	1754.7	1486.7	1325.9	1240.8	1218.3
29.5°	2008.3	1743.2	1473.3	1311.6	1225.9	1202.5
30°	1998.2	1731.2	1459.4	1297.2	1210.6	1186.7
30.5°	1987.7	1718.8	1445.1	1281.9	1194.8	1170.4
31°	1977.2	1706.3	1431.2	1267.5	1179.0	1153.7
31.5°	1965.7	1693.9	1417.3	1252.7	1162.8	1136.9
32°	1954.7	1680.0	1402.5	1237.9	1146.5	1119.7
32.5°	1942.2	1667.1	1388.1	1223.0	1130.2	1102.5
33°	1929.8	1653.2	1373.3	1207.7	1113.9	1085.7
33.5°	1916.4	1639.3	1358.9	1192.4	1096.7	1068.0
34°	1902.0	1624.5	1343.6	1177.1	1080.0	1050.8
34.5°	1887.7	1609.7	1328.8	1161.8	1063.2	1032.1
35°	1872.4	1594.8	1313.5	1146.0	1045.5	1014.4
35.5°	1858.0	1581.0	1298.6	1130.2	1028.3	995.8
36°	1844.6	1567.6	1283.8	1114.9	1010.6	978.1
36.5°	1831.7	1554.2	1269.0	1098.6	992.4	958.9
37°	1818.3	1540.8	1254.1	1082.4	974.7	940.7
37.5°	1803.5	1527.4	1239.3	1066.6	956.5	921.6
38°	1786.7	1513.0	1224.5	1050.3	938.3	903.4
38.5°	1768.1	1497.7	1209.6	1034.5	919.7	883.8
39°	1746.5	1481.0	1195.3	1017.8	901.5	866.1
39.5°	1724.0	1462.8	1179.5	1002.0	882.8	847.9
40°	1700.1	1443.2	1163.2	984.8	864.6	830.7
40.5°	1676.2	1422.6	1146.5	968.5	845.5	812.5
41°	1651.3	1402.0	1129.3	951.7	827.3	796.2
41.5°	1625.0	1380.0	1112.0	935.0	809.1	779.5
42°	1598.7	1358.0	1093.4	917.3	791.4	764.2
42.5°	1571.9	1335.5	1074.7	900.1	774.7	748.4
43°	1545.1	1312.5	1055.6	882.4	757.5	732.6
43.5°	1516.4	1289.1	1036.4	864.2	741.2	717.3

TEST NUMBER: P776808

CATALOG NUMBER: HCDJBL54050CSD-HCD8TRH-HCD8TRLWW-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1430.7	1217.3	975.7	808.7	693.3	673.2
45.5°	1401.0	1192.4	955.1	790.0	678.5	659.9
46°	1371.4	1168.5	934.5	770.4	662.7	645.5
46.5°	1343.2	1142.7	913.5	751.7	648.4	631.6
47°	1312.5	1117.8	892.4	732.1	634.0	618.2
47.5°	1282.4	1091.9	870.9	712.5	619.7	604.8
48°	1252.7	1067.5	849.8	692.9	605.3	591.9
48.5°	1224.0	1041.7	828.3	673.7	591.4	579.0
49°	1193.4	1016.8	807.2	654.6	577.5	566.5
49.5°	1163.7	991.5	785.7	636.4	564.2	553.6
50°	1134.0	965.6	764.2	617.7	550.8	541.2
50.5°	1105.8	940.7	742.6	600.0	537.4	528.7
51°	1075.2	915.8	722.5	581.9	524.4	516.8
51.5°	1047.9	891.0	701.0	565.1	511.5	505.3
52°	1018.2	865.6	680.4	547.9	499.1	493.3
52.5°	990.5	840.2	659.4	531.1	486.6	481.8
53°	962.3	816.3	638.8	514.4	474.7	470.4
53.5°	935.0	792.4	618.2	499.1	462.2	459.4
54°	906.8	768.0	598.6	483.3	450.3	447.9
54.5°	880.4	744.1	579.0	467.5	438.8	437.3
55°	853.6	721.6	559.4	452.7	427.3	426.3
55.5°	827.8	698.1	539.7	438.3	416.3	415.8
56°	801.5	675.6	521.6	424.0	405.3	405.8
56.5°	776.1	652.7	502.9	409.6	394.3	395.2
57°	751.2	630.7	484.7	396.2	383.3	385.2
57.5°	727.3	608.7	466.5	383.3	372.8	375.6
58°	702.9	588.1	449.8	370.8	362.7	365.6
58.5°	679.9	567.5	433.0	358.4	352.7	356.5
59°	656.0	546.9	416.8	346.4	343.1	347.4
59.5°	633.5	526.4	400.5	335.0	333.5	338.3
60°	611.5	507.2	385.2	323.9	323.9	329.2
60.5°	590.0	487.6	369.9	312.9	314.9	320.6
61°	568.5	469.4	355.0	302.4	305.8	312.0
61.5°	548.4	451.7	341.2	292.4	297.1	303.4
62°	527.8	433.5	327.3	282.8	288.5	295.2
62.5°	508.2	416.3	313.4	273.2	280.4	287.1
63°	488.5	399.1	300.5	264.1	272.3	279.4
63.5°	469.9	382.8	288.1	255.0	263.7	271.8
64°	451.2	366.5	276.1	246.9	256.5	264.1
64.5°	433.5	351.2	264.1	238.8	248.8	256.5
65°	417.3	335.9	253.1	230.6	241.2	248.3
65.5°	400.5	321.6	242.1	223.0	234.0	240.7
66°	383.8	306.7	231.6	215.8	226.8	233.0



TEST NUMBER: P776808

CATALOG NUMBER: HCDJBL54050CSD-HCD8TRH-HCD8TRLWW-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	335.4	266.5	201.9	194.3	204.8	209.1
68°	320.6	253.6	192.8	187.6	197.1	201.9
68.5°	306.2	241.2	184.2	180.9	190.0	194.3
69°	292.4	229.7	175.6	174.7	182.8	186.6
69.5°	278.5	218.2	168.0	168.9	175.6	179.4
70°	265.1	206.7	160.3	162.7	168.9	171.3
70.5°	252.6	196.2	152.6	156.9	162.2	164.6
71°	240.2	185.7	145.0	150.7	155.5	157.9
71.5°	227.8	175.6	137.8	144.5	148.8	150.7
72°	216.3	166.5	131.1	138.8	142.1	144.0
72.5°	204.8	157.9	124.4	133.0	135.4	137.3
73°	193.8	148.8	117.7	127.3	128.7	130.6
73.5°	183.3	139.7	112.0	121.5	122.5	123.5
74°	173.2	130.6	106.2	116.3	116.3	116.8
74.5°	163.2	122.5	101.0	110.5	110.1	110.5
75°	153.6	114.8	95.7	105.3	103.8	103.8
75.5°	144.5	107.2	90.4	100.0	97.6	97.6
76°	135.4	100.0	85.7	94.7	91.9	91.4
76.5°	127.3	93.3	80.9	89.5	85.7	85.7
77°	118.7	86.6	76.6	84.2	80.4	79.9
77.5°	111.0	80.4	72.3	79.4	74.6	75.1
78°	103.4	74.2	68.4	74.2	69.9	70.8
78.5°	95.7	68.4	64.1	69.4	65.1	66.5
79°	89.0	62.7	59.8	65.1	60.8	62.2
79.5°	81.8	57.4	56.0	60.3	56.9	58.4
80°	75.1	52.2	52.2	55.5	52.6	54.1
80.5°	68.9	47.4	48.3	51.7	48.8	50.7
81°	63.2	43.1	44.5	47.4	45.0	46.9
81.5°	57.4	38.8	40.7	43.5	40.7	43.1
82°	51.7	34.5	37.3	39.7	36.8	39.2
82.5°	46.9	30.6	34.0	35.9	33.5	35.9
83°	42.6	27.3	30.6	32.5	29.7	32.1
83.5°	37.8	23.9	26.8	28.7	25.8	28.2
84°	33.0	20.6	23.9	25.4	22.5	24.9
84.5°	28.2	17.2	20.6	22.0	19.1	21.5
85°	23.4	14.8	17.2	18.7	16.3	18.2
85.5°	19.6	12.0	14.4	15.8	13.4	15.3
86°	15.8	9.6	11.5	12.9	10.5	12.4
86.5°	12.0	6.7	8.6	9.6	8.1	9.6
87°	8.6	4.8	5.7	6.7	5.7	7.2
87.5°	5.7	2.4	3.3	4.3	3.8	4.8
88°	2.4	1.0	1.0	1.9	2.4	2.9
88.5°	0.5	0.0	0.0	0.5	1.0	1.4



TEST NUMBER: P776808

CATALOG NUMBER: HCDJBL54050CSD-HCD8TRH-HCD8TRLWW-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.0	0.0	0.0



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Scaled Data Report





— 0°-180°    - - 45°-225°    - - - - 90°-270°    - · - · 135°-315°

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Scaled Data Report



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21.5°	1436.0	1468.0	1556.1	1707.8	1947.5	2169.5	2328.9	2417.9	2437.0	2392.0	2283.4
22°	1422.1	1455.1	1543.2	1697.2	1940.8	2167.1	2328.9	2418.8	2437.5	2392.0	2282.0



44°	702.4	740.7	879.0	1079.0	1380.0	1628.8	1748.9	1770.5	1742.2	1698.2	1621.2
44.5°	688.1	724.4	860.8	1060.4	1358.5	1601.5	1715.4	1734.1	1706.8	1662.3	1588.6



66.5°	224.9	230.6	230.2	251.7	353.1	426.3	452.2	452.2	435.9	426.8	407.2
67°	217.2	223.0	222.5	240.7	337.8	409.6	434.5	434.5	419.2	410.6	390.9



89°	0.5	1.4	2.4	3.3	3.8	5.3	6.2	4.8	1.0	0.5	0.0
89.5°	0.0	0.5	0.5	1.0	1.9	2.4	2.4	1.0	0.0	0.0	0.0



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21.5°	2116.4	1900.6	1675.7	1532.6	1455.6	1436.0
22°	2112.1	1892.5	1664.2	1519.2	1441.7	1422.1



44°	1488.6	1265.2	1016.3	846.0	724.9	702.4
44.5°	1458.5	1241.2	995.8	827.8	709.1	688.1



66.5°	367.5	292.8	221.5	208.6	219.2	224.9
67°	350.7	279.0	211.5	201.4	212.0	217.2

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89°	0.0	0.0	0.0	0.0	0.5	0.5
89.5°	0.0	0.0	0.0	0.0	0.0	0.0

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Scaled Data Report



(END OF REPORT)